

Then, in a conventional manner, a user may selectively position the cursor 40 (see FIG. 1) on the display screen 32 by simply tilting the pointing stick 70 in an appropriate direction. Appropriate circuitry in the module 52a senses the tilt direction and magnitude and, via the interconnected plug 74 and socket 76, transmits the resulting cursor position control signal to the circuitry 38 (see FIG. 4) which, in turn, correspondingly shifts the cursor 40 on the display screen 32. Once the cursor 40 is positioned on the desired location on the screen 32, either or both of the pick buttons 66 may be used to create a desired computer operation associated with the cursor-selected screen area.

Referring now to FIG. 5B, to remove the module 52a from the base housing 12, the Hard disk drive structure 42 is first removed as indicated by the arrow 86. The release button 64 is then pressed to retract the detent projections 62 (see FIG. 1) and withdraw them from the groove 78, and the module 52a is tilted in a counterclockwise direction about the pins 68, as indicated by the arrow 88 in FIG. 5B, to thereby downwardly withdraw the pointing stick member 70 from the top base housing wall opening 14a and downwardly withdraw the plug 74 from the overlying socket 76. Finally, as indicated by the arrow 90 in FIG. 5B, the tilted module 52a is moved forwardly (i.e., rightwardly in FIG. 5B) to horizontally remove the pins 68 from the groove 78 and withdraw the module 52a from the base housing cutout area 28.

Next, as schematically depicted in FIG. 5C, the module 52b is installed by tilting it downwardly and rearwardly, inserting its pins 68 into the grooves 78, and moving it rearwardly into the cutout area 28 as indicated by the arrow 92 in FIG. 5C. Module 52b is then pivoted in a clockwise direction, as indicated by the arrow 94, to move the module 52b to its FIG. 5D installed position in which its detent members 62 have snapped into the grooves 78, the plug 80 has been moved upwardly into and blocks the wall opening 14a, and the plug 74 has entered the socket 76 to thereby electrically couple the touchpad and pick button circuitry to the cursor control circuitry 38 (FIG. 4).

The installation of the touchpad module 52b is completed by re-inserting the hard disk drive structure 42 rearwardly into the cutout area 28 as indicated by the arrow 96 in FIG. 5D, thereby positioning the disk drive 50 in an underlying, supporting relationship with the touchpad module 52b. With the module 52b installed in this manner, a user simply runs his finger along the top side of the touchpad 82 (see FIG. 2) in a direction corresponding to the desired relocation direction for the cursor 40 (FIG. 1), and then uses one or both of the pick buttons 66 to cause the desired computer operation associated with the screen area within which the relocated cursor is positioned.

While unique interchangeability of pointing device modules in the present invention has been illustrated using a pointing stick module and a touchpad module, it will be readily appreciated by those of ordinary skill in this particular art that other types of modules could also be used if desired. For example, a track module could be used in addition to the modules illustrated herein. Additionally, a module could be utilized in which receiving circuitry for a remote infrared mouse was incorporated.

It will also be readily appreciated that other types of module connection techniques can be employed if desired, and that if additional module support from another computer component is desired, the supporting computer component can be a component other than the representatively illustrated hard disk drive structure 42.

The interchangeability of pointing devices provided by the present invention permits a computer manufacturer to advantageously utilize a single portable computer design having a selectively variable pointing device portion to thereby increase the potential market for the computer by essentially eliminating the problem of having, in the view of potential customers having a strong pointing technique preference, the "wrong" type of pointing device incorporated in the computer. Additionally, such interchangeability potentially permits a customer to purchase two or more types of pointing devices for two different users of the computer.

The foregoing detailed description is to be clearly understood as being given by way of illustration and example only, the spirit and scope of the present invention being limited solely by the appended claims.

What is claimed is:

1. Electronic apparatus comprising:
  - a screen on which a movable image may be displayed; and
  - a housing structure having an externally accessible connection portion operative to releasably and interchangeably support a selectively variable one of a plurality of different types of pointing device modules each operative by a user of said electronic apparatus to controllably reposition the image on said screen.
2. The electronic apparatus of claim 1 wherein said electronic apparatus is a computer.
3. The electronic apparatus of claim 2 wherein said computer is a portable computer.
4. The electronic apparatus of claim 3 wherein said portable computer is a notebook computer.
5. The electronic apparatus of claim 1 wherein said externally accessible connection portion is operative to releasably support a pointing stick module.
6. The electronic apparatus of claim 1 wherein said externally accessible connection portion is operative to releasably support a touchpad module.
7. The electronic apparatus of claim 1 wherein:
  - the movable image is a cursor,
  - said electronic apparatus further comprises cursor control circuitry, and
  - said externally accessible connection portion is operative to connect the pointing device module which it supports to said cursor control circuitry.
8. The electronic apparatus of claim 1 wherein said externally accessible connection portion is operative to provide a releasable snap-in attachment of the pointing device module that it supports.
9. The electronic apparatus of claim 1 further comprising a plurality of different types of pointing device modules interchangeably supportable by said externally accessible connection portion.
10. The electronic apparatus of claim 9 wherein one of said plurality of different types of pointing device modules is a pointing stick module.
11. The electronic apparatus of claim 9 wherein one of said plurality of different types of pointing device modules is a touchpad module.
12. The electronic apparatus of claim 9 wherein said plurality of different types of pointing device modules include a pointing stick module and a touchpad module.
13. A portable computer comprising:
  - a base housing;
  - a lid housing pivotally secured to said base housing and having a screen thereon;
  - cursor control circuitry; and